Nonverbal Communication Between Blacks and Whites in a School Setting

By

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Abstract of Dissertation Presented to the
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NONVERBAL COMMUNICATION BETWEEN BLACKS AND WHITES IN A SCHOOL SETTING

By

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The question under investigation was whether blacks and whites differ in the area of nonverbal communication.

The faces of 6 black and 6 white teachers were video-taped as the teachers each gave the same instruction in a simulated class situation. Thirty black and 30 white 9th and 10th grade students rated the teachers on six semantic differential scales and twenty-five personality trait items. The students were screened for stereotyped racial attitudes and the students of each race were divided into a high and a low stereotype group. The students (balanced black and white, balanced high and low stereotype) were divided into three rating conditions. One group saw only the faces of the teachers, one group only heard their voices, while a third group both saw and heard the teachers.

The personality trait items were grouped into six clusters, on which analyses of variance were performed. The semantic differential scales were analyzed with multiple linear regression procedures. Both black and white students rated teachers of their own race significantly more positively, i.e., as being better, more dynamic, and as possessing more desirable personality characteristics. Black students, as compared with white students, rated the teachers of both races significantly more positively when only the faces were seen on video tape.

The author concluded that blacks and whites do differ in the area of nonverbal communication and suggested that blacks, as compared with whites, may attend more to facial cues than vocal cues.

INTRODUCTION

A great deal of interest has been shown in recent years in the phenomenon of nonverbal communication. Such things as gesture, facial expression, and tone of voice communicate meaning and give a context for interpreting the spoken word. The term "nonverbal" refers to any means of communication that does not use language sounds, i.e., sounds essential in the production of words. Markel (1964, 1965, 1969a) has examined the role of pitch, tempo, and loudness in vocal nonverbal communication. Dittmann (1966a, 1966b), Ekman (1964, 1968) and many others have investigated other aspects of nonverbal communication, namely facial expression, body posture, and body movement.

While in Japan the experimenter became interested in nonverbal communication across cultural lines. He noticed that misunderstanding between Japanese and Americans was often due to the differing sets of nonverbal signals used to communicate in the respective cultures. An American who is unfamiliar with Japanese culture, for example, often gets the impression that Japanese are crafty, sly, and evasive. The reasons for this are twofold. First, the Japanese use much less eye contact than Americans in conversation. Second, their eyes are naturally slanted, and to those unaccustomed to this, the Japanese appear to be squinting. Japanese, on the other hand, get the impression that Americans are angry all the time. The eyes of Americans are round, while the eyes of Japanese only become such under the influence of an intense emotion, such as anger. Americans use more eye contact in conversation, thus giving the impression of staring. Thus, communication across cultures, as Lado (1957) points out, not only involves differing languages, value systems, cognitive styles, and learned emotional reactions to stimuli, but also both differing sets of nonverbal signals and different symbolism attached to similar nonverbal signals.

The experimenter feels that racial tensions in the United States can be attributed in part to problems of cross-cultural communication. Most white Americans are from a European cultural tradition. The cultural tradition of black Americans, however, stems from Africa. One would expect communication problems between groups with such differing cultural heritages. One would also expect different communication patterns in the use of facial expressions, tone of voice, body posture and movement. A southern black, for example, often avoids eye contact when speaking to a white. A southern white sees this as a sign of respect and is comfortable with it. A northern white, however, often becomes irritated in this situation because he feels he is being avoided.

A great deal of black-white research has been done in such areas as attitude measurement, intellectual ability, and dialect studies. However, to the experimenter's knowledge, no one has investigated nonverbal communication between blacks and whites. The purpose of this study is to investigate whether or not there are significant differences between blacks and whites in nonverbal communication. Facial expression and vocal nonverbal communication were the areas chosen in which to pursue this purpose.

Review of the Literature

The cumulative effect of verbal and nonverbal signals on interpersonal perceptions of personality characteristics was studied by Beier and Stumpf (1959). In sequence, the judges were exposed to (1) the voices of unknown subjects, (2) their gestures, (3) their facial expressions, and (4) their interactional behaviors. The observers' ratings showed that impressions of strangers shifted as each additional series of cues was made available. This would seem to indicate that no particular channel of communication predominated over all others, but rather that impressions are continually shifting as cues from all channels are absorbed simultaneously.

D'arcais (1961) designed an experiment to study the impression of personality with respect to facial expression contrasted with the associated verbal behavior. The judges viewed facial expressions which contrasted with the verbal behavior expressed (e.g., a smiling face and a verbal expression of sadness). In spite of the strong contrast between facial expression and words, only few judges considered the recital to be nonsense. Their interpretations were classified as follows:

(a) Concordance: with predominance of facial expression (contrasting words are overlooked or adapted to the facial expression) or the word (the facial expression is ignored or adapted to the words).

(b) Conflict: contrast between facial expression and words is transformed into an interior conflict (of sentiments) of the individual.

(c) Contrasts: between words and facial expression. An individual is seen as insincere, deceitful, joking, ironic, or sarcastic.

Impressions of personality based on situations of contrast are mainly and strongly negative; the individual is described as deceitful, not trustworthy or inconstant.

In two of the earliest studies comparing the meaning in action and voice, Dusenbury and Knower (1938, 1939) used "meaningless content" to express eleven emotional states while the participants were recorded on 16mm film. Particularly expressive frames were selected for each emotion. Although the visual mode seemed to be more specific than the verbal mode, the authors concluded that the differences between these two modes depended upon the performers, the emotions conveyed, and the judges. However, those judges who saw the motion pictures rated more accurately than those who saw the still frames.

Ekman (1964) proposed that judges could detect a relationship between nonverbal and verbal behavior which would be simultaneously emitted during an interview. With a 35mm camera, still photographs were taken every 30 seconds in interview A and every 15 seconds in interview B, and then synchronized with the tape recorded portion. Judgements were made by presenting copies of speech behavior with two photographs, one incorrect and one correct, with the instructions to match the speech with the photograph. Four major conclusions resulted. First, untrained judges chose from a pair of photos the one which was taken during a given speech sample. Secondly, professional dancers were able to pick the photo which matched a verbal sample, when limited to seeing body position. Thirdly, a heterogeneous group of judges chose from a pair of photos, showing only body posture, the one taken during a given speech sample. Fourth, the judges responded to head cues with greater accuracy than to body positions.

A study by Giedt (1955) was designed to indicate which of the several forms of observations available to the clinician seems most related to making accurate judgements of the patient. A sound film of the 4 patients (3 moderately disturbed, and 1 general medical patient) was made. Forty-eight judges (16 each of psychiatrists, sociologists, and psychologists) were divided into four equal groups. The judges were exposed to (1) visual cues (silent film), (2) verbal content (verbatim written transcript), (3) content plus auditory cues (sound alone), and (4) content plus auditory and visual cues (complete sound film). The judges' impressions were obtained by having them rate the subjects on personality scales and having them make predictions for the sentence completion test.

The only statistically significant differences between the accuracy of the four modes were (1) between the silent film and the other three modes and (2) between the written protocols and the complete sound film. In predictions of the sentence completion test, when clinicians saw only the silent film, their predictions were poorer than chance. The authors concluded that besides relying on visual cues, clinicians should pay attention to what the patient says about himself in an interview situation.

One of the most exhaustive studies done in the area of gaze or eye direction in social interaction, especially as it relates to the vocal channel, was done by Kendon (1967). He concluded that gaze direction changes in regular fashion in association with other interactive behavior, such as the structure or the content of vocal utterances. Gaze can function for the individual in two ways: (1) Monitoring Function - in looking or not looking at A, B can control the degree to which he monitors A's behavior, and (2) Regulatory and Expressive Function - in looking or not looking at A, B can seek to control the behavior of A.

Kendon found a general pattern which relates gaze direction and speech, and, more particularly, speaker role. A person's looking may function as a signal regulating the exchange and maintainence of speaker role. If the speaker ends his utterance by looking at the listener, he has signaled the listener that it is his turn to speak and he has also seen whether this signal has been received by the listener. In looking away, the listener signals that he has received the signal, and accepted the offer for a change in role. Kendon found also that the speaker generally looks at the listener during passages of fluent speech, and at the end of phrases, but that he looks away during non-fluent speech or hesitations. The speaker can thus request attention signals from the listener, or can gain time for what he wants to say.

One of the major studies in this area is that by Levitt (1964). Levitt studied the communication of emotion through vocal and facial expression. Sound films were taken of 50 subjects expressing six different emotions (joy, surprise, fear, disgust, anger, and contempt). Three groups of 8 judges sought to identify the emotions expressed. One group saw only the film; another heard only the subjects' voices; while the third group both saw the film and heard the voices. Levitt made three hypotheses. The first was that there is a positive relationship between ability to express emotional meaning facially and vocally. This was found to be the case. His second prediction was that emotional meaning would be communicated more accurately by vocal expression than by facial expressions. Here the opposite was found. Five of the six emotions (fear being the exception) were communicated more accurately by facial expressions than by vocal expressions. The final hypothesis was that vocal-facial communication would be superior to either vocal or facial communication alone. This was not found to be the case. Vocal-facial communication was roughly the same as facial communication in the case of joy, surprise, disgust, anger and contempt, and equivalent to vocal communication in the case of fear. No sex differences were found in expressive abilities.

Mehrabian and Ferris (1967) studied vocal-facial communication in an effort to throw light on the "double bind" theory of schizophrenia proposed by Bateson, Jackson, Haley, and Weakland (1956). In a previous study, Mehrabian and Weiner (1967) had examined vocal-verbal communications in which three degrees of attitude (i.e., positive, neutral, and negative) in the vocal component were each combined with three degrees of attitude in the verbal component (i.e., meaning of the words). They found that when vocal communication of attitude is inconsistent with verbal communication, normal subjects respond to the two-channel communication by subordinating the verbal component to the vocal component. If, for example, the word "scram" is said in a tone of voice which is independently judged as communicating positive attitude towards the addressee, the consensual interpretation of the total communication is positive. They therefore hypothesized that judgements of attitude, on the basis of consistent and inconsistent pairings of facial and vocal attitude communications, would yield a main effect due to variations in the facial component, and no effect due to variations in the vocal component or its interaction with the facial component.

Three female speakers each spoke the word "maybe," twice conveying the attitude "like," "neutral," and "dislike," thus producing eighteen items. Photographs were made of the faces of 3 female models portraying the same attitudes. Two photographs of each model in each attitude were used. The voices and the photographs were presented separately to 17 female subjects who rated them on a modified semantic differential scale along the like-dislike dimension. A combination of the voices and photographs (36 combinations in all) was presented to 20 different female subjects who rated them in the same way.

Comparing the independent effects of vocal and facial communication, it was found that the independent effects of all vocal communications of attitude were comparable to the independent effects of all facial communications of attitude within each of the three levels of attitude investigated. Regarding the effects of combined vocal and facial communication, the results of the study indicate that the facial and vocal components do not interact and the facial component has a stronger effect than the vocal component. However, in contrast to the hypothesis that the main effect would be due to variations in the facial component, the effect due to the vocal component was also significant. Thus, the results of the study can be summarized as follows: Attitudes inferred from two-channel facial-vocal attitude communications are a linear function of the attitude communicated in each component, with the facial component receiving approximately 3/2 the weight received by the vocal component.

Rose (1964) felt that when messages on different channels differ from one another, either compromise, summation, or reverse summation results. One hundred and sixty-five male subjects were divided into six groups and shown motion pictures of college basketball games. An "expert" voice on the sound track commented favorably and unfavorably at different times. The film clips showed the team playing well and then playing poorly. The subjects were asked to predict which team would win and by how many points. Subjects who saw clips in which the voice agreed with the visual image summated attitudinally more often than where messages were incongruent. However, there was no significant superiority of words over pictures or pictures over words in influencing subjects' judgements. A "boomerang effect" (reverse summation) was frequently seen in resolving some discrepancies.

Shapiro (1965) investigated consistency in the expression of emotion. Each of 56 male undergraduates completed in a group session a self-disclosure questionnaire, a FIRO-B, and the Taylor Manifest Anxiety Scale. Each took part in an interview which was recorded on video tape. Five minutes of the interview was rated on the nine-point scale for degree of pleasantness by four groups of 6 judges each. One group of judges used combined audio and visual channels, a second used video only, a third audio only, and the fourth read a transcript. Judgements were made by all groups every 30 seconds, yielding 6 judgements in each mode for each of ten time periods for all 56 subjects.

"Consistency" was defined as a variance across several modes of judgement (i.e., video channel only, audio channel only, and combined audio and video channels). "Explicitness" was a variance calculated across ratings of an individual by the judge in one mode of judgement. "Stability" was a positive relationship between mean scores in two or more modes of judgement. Statistical tests showed that individuals differ reliably in emotion communication consistency. A Kuder-Richardson 20 reliability of .74 was obtained for the sum of the consistency scores for the ten time periods. Audio-video and video explicitness correlated positively and significantly with consistency. Video, audio, and transcript level scores correlated positively with each other. More emotionally consistent individuals were more disclosing. Extreme scores in the interview showed no significant relationship with self disclosure and manifest anxiety, and wanted and expressed inclusion (FIRO-B) were not related to interview consistency. The patterns of stability between modes suggested that individuals use two non-overlapping groups of cues when judging emotion.

Shapiro (1968a) investigated the response of judges to incongruent cues. Judges were presented a forty-six-item test in which they were to rate the affect communicated through an individual's concurrent facial expression and verbal message. On thirty-two of the items the face and words communicated markedly different levels of pleasantness. Groups of 42 and 35 undergraduate students were tested for their tendency to utilize one or the other kinds of cue. Data analysis suggested strikingly high reliability in individual's responsivity to facial or verbal cues.

For the junior college class of 42 male and female students, responsivity to verbal versus facial cues showed a split-half reliability of .77, $p < .01$.

For the group of 35 undergraduate students the split-half reliability was .86, $p < .01$. Both of the reported reliabilities were made before correction for the full length of the thirty-two-item test.

Males and females were compared regarding their responsivity to facial or verbal cues. There was no significant difference between males and females in either group in regard to absolute deviation from group means.

Shapiro concluded that individuals can be reliably differentiated according to their responsivity to facial or verbal cues. Some individuals respond more to signs originating in the words of an individual.

In another study by Shapiro (1968b) trained raters of a facilitative therapeutic condition (genuineness, empathy, or warmth) or of client self-exploration rated thirty-nine segments of therapy or therapy-like interactions through audio, video, or audio-video communicative channels. Although verbal and visual cues were generally found to be equally good predictors of the whole interaction, it was noted that the judges were probably predisposed toward verbal behavior. Except for this possible methodological difficulty, audio taping can be used as a reasonable (though not complete) abstraction of psychotherapy.

Williams and Sudene (1965) presented portrayals of twelve emotional states to observers in three experimental conditions: (1) photographic slides of facial expressions, (2) tape recordings of vocal expressions, and (3) a combination of visual and vocal stimuli. The observers rated the stimuli on semantic differential scales along three dimensions, general evaluation (e.g., pleasant-unpleasant, beautiful-ugly), social control (e.g., wise-foolish, drunk-sober) and activity (e.g., fast-slow, interesting-boring). Factor analysis of the observers' responses to the stimuli suggested the following conclusions: (1) dimensions of recognition are applicable to perception of emotion in vocal as well as visual presentations; (2) at least two dimensions, *general evaluation* and *activity*, may have some generality between visual and vocal modes and across different emotional states; (3) perception of *activity* in photographs versus tape recordings of emotional portrayals seems most susceptible to individual scale differences.

Summary

The following conclusions would seem to emerge from the studies reviewed above and from other related studies found in the literature. These studies were performed under different conditions, with different measures, etc., so these conclusions must be considered as only tentative. However, they offer a context in which to view the present study.

1. Voice and face are separate channels of communication. A message may be picked up in one channel independently of the other. This was clear in all the studies. Thus, communication on the two channels may be classified in several ways. First, the messages on the two channels may not be related in any way, and may have no influence on one another. A possible example would be: I am communicating something to you vocally, while sucking on a toothpick. My sucking on a toothpick may communicate a number of things about me, but at the same time be unrelated to what I am expressing vocally (Friedman and Hoffman, 1967; Shapiro, 1966). Second, the same message may be given via vocal and facial channels; e.g., if I am very angry with someone my anger may be communicated in both the paralinguistic qualities of my speech, and in my facial expression (Levitt, 1964; Shapiro, 1968a).

Third, the communications on the two channels may contrast with or contradict each other. The decoder, therefore, may take the message on one or the other channel as the true message. Or, one might conclude that the true message is some combination of the separate messages on the two channels. For example, if I express anger toward you in my tone of voice, but at the same time smile pleasantly, you may conclude that I am really angry with you, or that I am really not angry with you, or that I have mixed feelings about you (Shapiro, 1966, 1968a; Mehrabian and Ferris, 1967; Levitt, 1964; D'arcais, 1961; Dittmann and Llewellyn, 1967; Ekman, 1964; William and Sudene, 1965).

2. When communication on the vocal and facial channels is related, this is often a function of the social interaction in a situation. As Kendon (1967) points out, if a speaker ends his utterance by looking at the listener, this is a signal that it is the listener's turn to speak (Dittmann and Llewellyn, 1969; Kendon, 1967; Ellsworth and Merrill, 1969; Exline, Gray, and Schuette, 1965; Reece and Whitman, 1962).

3. When emotion is communicated on both channels, it seems that emotion may be communicated almost equally well on either the vocal or facial channel. It seems that communication via both channels is not much more powerful than communication on either the vocal channel or the facial channel alone (Levitt, 1964; Mehrabian and Ferris, 1967; Shapiro, 1965, 1968a; Williams and Sudene, 1965).

4. It appears, however, that in judgement of the total personality, or in clinical prediction, cues on the various channels (vocal, facial, posture, and body movement) have an additive effect, so that judges who have all these cues make better judgements (Allport and Vernon, 1933; Beier and Stumpf, 1959; Giedt, 1955).

5. Just as voice is related to facial communication, it may, in a similar manner, be related to other channels of communication, such as posture and body movement (Boomer, 1963; Boomer and Dittmann, 1964; Dittmann and Llewellyn, 1969; Friedman and Hoffman, 1967).

6. Just as communication in the facial channel is related to communication in the vocal channel, facial communication is similarly related to communication via other channels (Ekman, 1965).

7. When contradictory of inconsistent communication is given via vocal and facial channels, several things may happen. (a) The decoder may choose to listen and take the message from one channel only (Shapiro, 1968a; D'arcais, 1961); (b) the contradictory messages may cancel each other out, leading to a very middle-of-the-road, or neutral, judgement (Mehrabian and Ferris, 1967); (c) the decoder may judge the message sender as having contradictory feelings, or giving both messages at the same time, i.e., being ambivalent (D'arcais, 1961).

8. Inconsistency in communication, that is, differing communication via several channels, may be an index to some kind of disturbance or lack of balance, perhaps, sickness on the part of the message sender (Shapiro, 1965; Friedman and Hoffman, 1967). A number of writers express this as an opinion, but it has not been tested experimentally to any great extent. Shapiro (1965) found that inconsistency in communication correlated with low self-disclosure.

9. Regarding the decoder of the message, decoders differ in their sensitivity to different cues (Culler, 1967; Shapiro, 1968a). Shapiro found that decoders are quite consistent in responding selectively to messages in one channel, either vocal or facial. Ekman (1964) found that the relationship between verbal and nonverbal behavior may be rated

and detected by untrained observers.

The Present Study

The studies reviewed are concerned mainly with analyzing the nature of nonverbal communication in the facial and vocal modes. Very little study of a cross-cultural nature has been done on nonverbal communication. The present study takes a cross-cultural approach in that it seeks to determine whether or not the members of two ethnic groups differ in their nonverbal communication on the facial and vocal channels.

The underlying assumption in this study is that if black and white teachers differ as a group in the nonverbal signals they give, the students will comprehend better the nonverbal signals given by teachers of their own race, and will tend to misunderstand or misinterpret the signals given by teachers of the opposite race. It was hypothesized that both black and white students then would rate teachers of their own race more positively (as better, more dynamic, and having more desirable personality characteristics).

Through the use of the three information conditions (voice alone, face alone, and voice and face together), it was hoped that some light might be shed on the way blacks and whites differ in the use of facial expression and tone of voice. However, the experimenter was unsure as to how blacks and whites might differ in reference to these three information conditions. For purposes of the experiment, the null hypothesis was made that there would be no difference.

Hypothesis I: Both black and white students will rate teachers of their own race more positively.

Hypothesis II: Black and white students will not differ in the three information conditions of voice alone, face alone, and voice and face together.

METHOD

The research design employed in this study used video tape and the rating of three conditions (voice alone, face alone, voice and face together). This design has been used by Levitt (1964) and Shapiro (1965) to investigate nonverbal communication. It allows one to examine both the independent and combined effects of two of the principal channels of nonverbal communication.

Stimuli

Twelve teachers, 6 black and 6 white, balanced male and female, were video-taped giving neutral instruction to students in a simulated class situation. Six students of the same race as the teacher giving the instruction constituted the simulated class situation. Only the face of each teacher was video-taped. Nonverbal communication through body posture and body movement were, therefore, not included in the study.

All 12 teachers, both black and white, were raised in the southeastern United States. Any variation due to regional differences in nonverbal communication was thus controlled. One black teacher was eliminated, for example, when it was discovered that although he was raised in Florida, his mother was from the West Indies, and that other southern blacks considered his manner of speaking to differ from their own.

The instruction which the teachers gave in the simulated class situation was taken from Raths, Harmini, and Simon (1966, p. 142).

> "Today, class, I would like to introduce the public interview. For this we need a volunteer, someone willing to be interviewed publicly, in front of the whole class.
>
> The person interviewed comes up and sits here at my desk, in front of the room. I will go to his seat and interview him from there. The spotlight, you see is on the person being interviewed.
>
> Now, what I will do first is ask what topic the person being interviewed wants to talk about. He can choose one of the topics on our list of value areas, or any other topic, even a very particular topic, like what he did over the weekend, or an idea he has, or a problem or decision he is facing. Anything he chooses.
>
> Then I will ask him clarifying questions, questions that may help him get clearer on the topic of the interview, or questions that I think may help the class to get clearer on what he is saying. Now do I have any volunteers?"

Since the content of the speech sample of the teachers was exactly the same, any difference which appears in the rating can be attributed to the nonverbal communication of the teachers.

Subjects

Thirty, 9th grade, white students from Fort King Junior High, Ocala, Florida, and 30, 10th grade, black students from Fessenden High, Ocala, Florida, formed the subject pool. Both groups contained approximately equal numbers of male and female students. Each group of 30 consisted of 15 students from the 'high stereotype' group and 15 from the 'low stereotype' group, as is explained below.

Both schools used in the study were integrated. In Fort King, the majority of the students were white, while in Fessenden, the majority were black. The faculty in both schools had a balance of black and white teachers. The white students fell into the middle socio-economic range, while the black students were in general from a somewhat lower socio-economic background. Originally, the subjects were to be taken from the one school which has sufficient numbers of black and white students of similar socio-economic background to allow for screening into the high and low stereotype conditions. This, however, turned out not to be feasible due to the delicate racial situation in the schools of Marion County at the time the data were being gathered.

Measures

Semantic Differential

The semantic differential, as developed by Osgood, Suci, and Tannenbaum (1957) was chosen to measure the responses of the students to the communication presented by the teachers. Markel, Meisels, and Houck (1964) and Williams and Sudene (1965) have found the semantic differential very useful in investigating nonverbal communication. The experimenter felt that while the personality trait check list dealt with specific personality characteristics of the teachers, the semantic differential would give a more general picture of what was communicated.

Osgood et al. (1957) observe that the activity and potency factors coalesce into a dynamism factor when judgements are limited to socio-political concepts (e.g., people and policies).

In this study, along with the use of evaluative scales, it was decided to group elements of Osgood's activity and potency factors into a dynamism dimension. The teachers were rated on three evaluative scales (good-bad, pleasant-unpleasant, friendly-unfriendly), and three dynamism scales (strong-weak, fast-slow, active-not active). All of the above scales have a high correlation with the factor they have been chosen to measure. The appendix includes a sample rating sheet which contains the semantic differential scales.

Personality Trait Check List

Twenty-five personality trait rating items were taken from the work of Secord, Dukes, and Bevan (1954), who investigated personality traits associated with physiognomic characteristics. The sample rating sheet which includes these items is given in the appendix. These authors found that these twenty-five adjectives coalesce into six factors. The present study used the same six clusters for purposes of analysis. Cluster A (Warmth-Tolerance) includes the adjectives trustful, kind, likeable, warmhearted, cheerful, patient, humorous, easygoing, and hostile. Cluster B (Moral-Social Respectability) includes the adjectives conscientious, intelligent, refined, studious, distinguished, responsible, and indifferent. Cluster C (Arrogance-Intolerance) consists of the adjectives sly, conceited, and quick-tempered. Cluster D (Forcefulness) includes alert, energetic, and self-confident. Cluster E (Aloofness) contains the one adjective aggressive. The rating of the adjectives was done on a 0-6 point scale, as will be explained below. When the adjectives express desirable personality characteristics, a high score (e.g., 6) is a positive rating. In analyzing the data, the scores of the negative traits, "hostile" (Cluster A) and "indifferent" (Cluster B) were reversed so that a numerically high score on these traits represents a positive rating, as do the other adjectives in these clusters.

Control for Stereotyped Attitudes

One of the concerns of the present study was to control for the presence of stereotyped anti-white and anti-black attitudes on the part of the students rating the teachers.

Originally it was proposed to use the anti-white and anti-negro attitude scales developed by Steckler (1957). These scales are very strongly worded. Due to the delicate nature of black-white relations in the Marion County Schools at the time of the study, it was decided that these particular scales were inappropriate.

A preliminary study was undertaken to see if the personality trait check list to be used in the study would reliably differentiate between students on the basis of stereotyped attitudes. Students were given the check list with simply the heading, "Blacks are," or "Whites are." It was found that the check list did reliably differentiate.

Approximately 80 black students and 80 white students were given the check list. The black students checked the items on the list under the headings, "Whites are," while white students checked the list under the heading, "Blacks are." Thus, each student was giving his impression of members of the opposite ethnic group. For the 80 students of each race, scores were compiled into group norms showing how the students as a group rated members of the opposite race. The data were plotted on a binomial distribution and only those items which were not attributable to chance or random selection ($p < .05$) were used as normative items. For the black students there were fourteen normative items. They agreed that white people are humorous, easygoing, intelligent, studious, sly, conceited, quick-tempered, and proud. They disagreed that whites are trustful, warmhearted, patient, hostile, conscientious, and aggressive. For the white students there were fifteen normative items. They *agreed* that black people are humorous, easygoing, quick-tempered, alert, energetic, self-confident, proud, and aggressive. They *disagreed* that they are trustful, warmhearted, patient, refined, studious, distinguished, and reserved. The 15 students out of the 80 in each group whose ratings most agreed with the normative items were selected as the high stereotype group. This makes a total of 30 (15 black and 15 white students in the high stereotype group). The 15 students out of the 80 in each group whose ratings most differed from the normative items were selected as the low stereotype group. Again this makes a total of 30 (15 black and 15 white students).

Experimental Procedure

Table 1 gives an outline of the four factors in the study, which combine to form 24 cells. These factors are:

1. Race of teacher: black, white
2. Race of student: black, white
3. Stereotype condition: high, low
4. Information condition: voice alone (V), face alone (F)
   voice and face together (VF)

Table 1

An Outline of the Factors Used in the Study

		High Stereotype						Low Stereotype					
		Black			White			Black			White		
		V	F	VF	V	F	VF	V	F	VF	V	F	VF
Teachers	Black	1	2	3	4	5	6	7	8	9	10	11	12
	White	13	14	15	16	17	18	19	20	21	22	23	24

Randomization procedures were used to assign students to the three information conditions, namely voice alone, face alone, and voice and face together. Thus, each information condition consisted of 20 students; 10 black and 10 white, half of whom were in the high stereotype condition and half of whom were in the low stereotype condition. Males and females were approximately equally divided in each group.

The rating of the video tape was done on separate days at the two schools. The V group and the VF group made ratings during the same session. The VF group was seated directly in front of the television. The V group was seated behind the television, facing away from it, and from the VF group in such a manner that they could clearly hear the video tape but could see neither the television nor the VF group. The F group made their ratings in a second session immediately following the session with the V and VF groups.

The following instruction was given to each group of students:

> "I am going to play for you a video tape of 12 teachers. I want you to mark down on the scoring booklets which have been handed to you, your personal impression of each teacher. After each teacher has spoken I will stop the tape and give you a little time to mark the scoring sheets. You will mark two sheets for each teacher.
>
> Please look at page one of your scoring booklet. After you see (and/or hear) teacher no. 1 you will circle a number between each pair of words on page one. This will give your impression of teacher no. 1. For example, if you thought he was very pleasant you would circle #3. If you thought he was a little unpleasant you would circle #-1. Is that clear?
>
> Please look at page two of your booklet. Twenty-five adjectives describing people are listed. After you see (and/or hear) teacher no. 1 you will circle either A (agree) or D (disagree) according to whether you agree or disagree that he possesses each quality. For example, if your impression of teacher no. 1 is that he is trustful you would circle A for the adjective trustful. If not, you would circle D for the adjective trustful. Any questions?"

Statistical Analysis

A computer program using multiple linear regression was employed to analyze the data from the semantic differential rating scales. The program was that developed by Bottenberg and Ward (1963).

As Cohen (1968) points out, multiple linear regression is identical with fixed model analysis of variance and co-variance. Multiple linear regression as a statistical procedure has great flexibility, power, and fidelity, with several distinct advantages over analysis of variance. One of these is that it enables the experimenter to investigate directly specific items of interest (e.g., a particular interaction, with variance from all the factors in the experiment taken into account. Cohen (1968) notes that with the advent of computers, multiple linear regression is being used more and more in the behavioral sciences. Previously it was little used in the behavioral sciences because of the long and complicated computational process involved. The four factors used for analysis of the semantic differential scales by multiple linear regression were the race of the teacher, race of the student, stereotype conditions, and information conditions.

For the analysis of the personality trait check list, a two by two analysis of variance with repeated measures was used for each of the six adjective clusters. The two factors were the race of the teacher and the race of the student. The stereotype conditions were not relevant since the adjective check list was the instrument used to distinguish between the high and low stereotype groups. The information conditions were not of particular interest relative to the personality trait items.

RESULTS

Semantic Differential

The results obtained on the semantic differential scales will be discussed in three sections: a comparison of black and white students in rating teachers, a comparison of high and low stereotype students in rating teachers, and a comparison of black and white students in rating on the three information conditions.

A comparison of black and white students in rating teachers.--Table 2 (evaluative dimension) and Table 3 (dynamism dimension) show how black and white students compare in rating all the teachers, in rating black teachers, and in rating white teachers. The variance due to the stereotype conditions and the information conditions has been taken into account by the multiple linear regression analytic procedures.

Tables 2 and 3 show us that black and white students do not differ significantly in the way they rate teachers in general. However, they do differ significantly in the way they rate according to race. In rating white teachers on dynamism, black and white students do not differ significantly.

Table 2

A Comparison of Black and White Students in Rating Teachers on the Evaluative Dimension

Source	SS	MS	df	F	p
All Teachers					
Between Groups	673.35	673.35	1	0.98	n.s.
Within Groups	39792.83	686.08	58		
Black Teachers					
Between Groups	4001.67	4001.67	1	15.90	.01
Within Groups	14599.33	251.71	58		
White Teachers					
Between Groups	1392.02	1392.02	1	6.64	.05
Within Groups	12154.17	209.55	58		

Table 3

A Comparison of Black and White Students in Rating Teachers on the Dynamism Dimension

Source	SS	MS	df	F	p
All Teachers					
Between Groups	1581.07	1581.07	1	2.60	n.s.
Within Groups	35195.53	606.81	58		
Black Teachers					
Between Groups	2856.60	2856.60	1	13.47	.01
Within Groups	12295.33	211.98	58		
White Teachers					
Between Groups	187.27	187.27	1	0.69	n.s.
Within Groups	15700.07	270.69			

Table 4 (evaluative dimension) and Table 5 (dynamism Dimension) show us the mean scores for black and white teachers as rated by black and white students. Each mean represents 540 ratings (i.e., 6 teachers rated by 30 students on three scales -- either three evaluative or three dynamism scales). On both the evaluative and dynamism dimensions the higher the numerical score (e.g., 6) the more positive (as better, more dynamic) the rating. The lower the numerical score the less positive the rating. Figures 1 and 2 represent graphically the means presented in Tables 4 and 5. We see from these means that both black and white students rate teachers of their own race more positively.

Table 4

Mean Scores on the Evaluative Dimension for Black and White Teachers as Rated by Black and White Students

	Black Teachers	White Teachers
Black Students	5.63	5.04
White Students	4.66	5.57

Table 5

Mean Scores on the Dynamism Dimension for Black and White Teachers as Rated by Black and White Students

	Black Teachers	White Teachers
Black Students	5.17	4.66
White Students	4.40	5.00

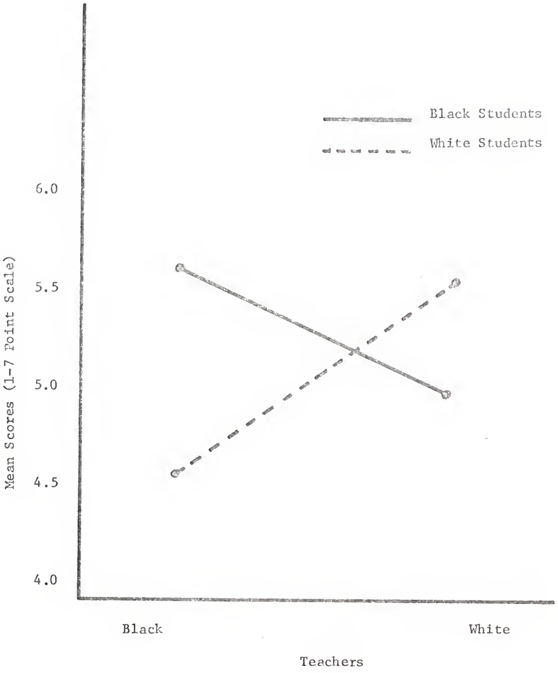

Figure 1. A Comparison of Mean Scores on the Evaluative Dimension for Black and White Teachers as Rated by Black and White Students

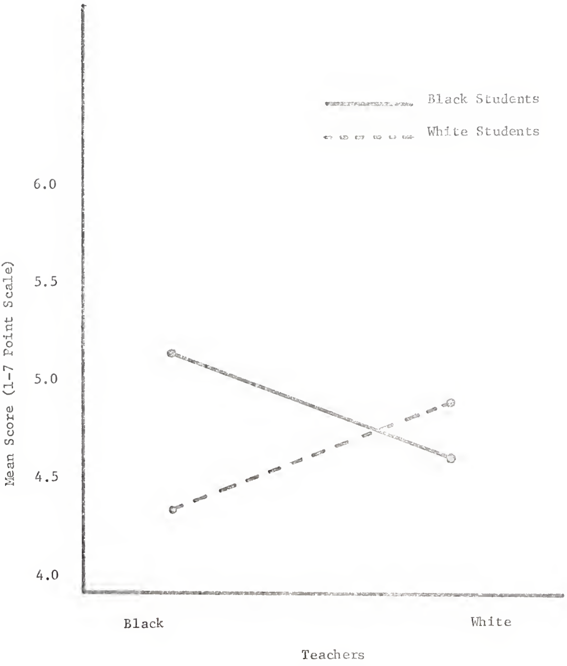

Figure 2. A Comparison of Mean Scores on the Dynamism Dimension for Black and White Teachers as Rated by Black and White Students

A comparison of high and low stereotype students in rating teachers.--Table 6 (evaluative dimension) and Table 7 (dynamism dimension) show us how students in the high and low stereotype conditions compare in rating all the teachers, in rating black teachers, and in rating white teachers. Each stereotype group contains 15 black and 15 white students.

Table 6

A Comparison of High and Low Stereotype Students in Rating Teachers on the Evaluative Dimension

Source	SS	MS	df	F	p
All Teachers					
Between Groups	1430.82	1430.82	1	2.13	n.s.
Within Groups	39035.37	673.02	58		
Black Teachers					
Between Groups	1215.00	1215.00	1	4.05	.05
Within Groups	17386.000	299.76			
White Teachers					
Between Groups	8.82	8.82	1	0.04	n.s.
Within Groups	13537.37	233.40	58		

Table 7

A Comparison of High and Low Stereotype Students in Rating Teachers on the Dynamism Dimension

Source	SS	MS	df	F	p
All Teachers					
Between Groups	4303.98	4303.98	1	6.90	.05
Within Groups	36162.20	623.49	58		
Black Teachers					
Between Groups	540.00	540.00	1	2.14	n.s.
Within Groups	14611.93	251.93	58		
White Teachers					
Between Groups	2.40	2.40	1	0.01	n.s.
Within Groups	14884.93	273.88	58		

In rating the teachers of both races, the high stereotype group is more negative than the low stereotype group. On the dynamism dimension, this difference is significant at the .05 probability level. Also the high stereotype group rates black teachers more negatively (as less good, less dynamic) than white teachers. On the evaluative dimension, this difference is significant at the .05 level.

Table 8 (evaluative dimension) and Table 9 (dynamism dimension), which show us the mean scores for black and white teachers as rated by students in the high and low stereotype groups, give us a picture of how the high stereotype group rates both black and white teachers, but especially black teachers, more negatively. The low stereotype group, besides rating more positively, rates black and white teachers about the same. Each mean score is based on 540 observations. Figures 3 and 4 represent, graphically, the means presented in Tables 8 and 9.

Table 8

Mean Scores on the Evaluative Dimension for Black and White Teachers as Rated by Students in the High and Low Stereotype Groups

	Black Teachers	White Teachers
Low Stereotype	5.38	5.37
High Stereotype	4.93	5.25

Table 9

Mean Scores on the Dynamism Dimension for Black and White Teachers as Rated by Students in the High and Low Stereotype Groups

	Black Teachers	White Teachers
Low Stereotype	4.96	4.94
High Stereotype	4.62	4.72

The data comparing the high and low stereotype groups show that the measure used for stereotyped attitudes does differentiate between the two groups and allows us to control for the variance presented by this factor.

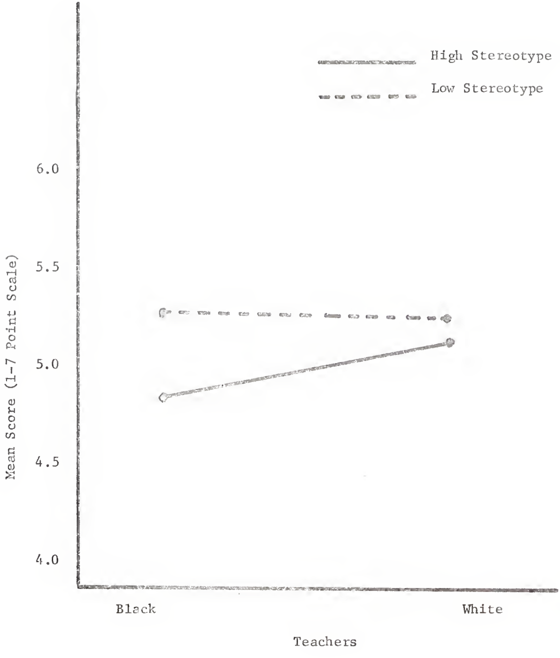

Figure 3. A Comparison of Mean Scores on the Evaluative Dimension for Black and White Teachers as Rated by Students in the High and Low Stereotype Groups

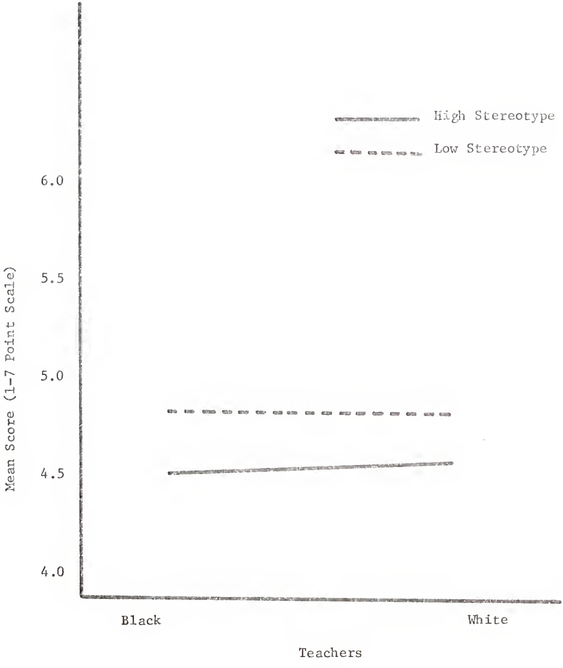

Figure 4. A Comparison of Mean Scores on the Dynamism Dimension for Black and White Teachers as Rated by Students in the High and Low Stereotype Groups

A comparison of black and white students in rating teachers on the three information conditions.-- Table 10 (evaluative dimension) and Table 11 (dynamism dimension) compare black and white students in rating teachers (grouping black and white teachers together) on the three information conditions.

When rating on the face alone condition, black students rate teachers significantly more positively (as better, more dynamic). On the voice alone condition and the voice and face together conditions, differences between black and white students are not significant.

Table 10

A Comparison on the Evaluative Dimension of Black and White Students in Rating Teachers on the Information Conditions

Source	SS	MS	df	F	p
Voice Alone					
Between Groups	1022.23	1022.23	1	1.52	n.s.
Within Groups	33615.12	673.02	50		
Face Alone					
Between Groups	3171.25	3171.25	1	4.71	.05
Within Groups	33658.79	673.17	50		
Voice and Face					
Between Groups	419.94	419.94	1	0.61	n.s.
Within Groups	34153.28	683.06	50		

Table 11

A Comparison on the Dynamism Dimension of Black and White Students in Rating Teachers on the Information Conditions

Source	SS	MS	df	F	p
Voice Alone					
Between Groups	981.61	981.61	1	1.94	n.s.
Within Groups	25343.37	506.87	50		
Face Alone					
Between Groups	2998.65	2998.65	1	5.47	.05
Within Groups	547.93	547.93	50		
Voice and Face					
Between Groups	2059.93	2059.93	1	3.90	n.s.
Within Groups	528.44	528.44	50		

Table 12 (evaluative dimension) and Table 13 (dynamism dimension) give us a comparison of mean scores for teachers (i.e., black and white teachers together) in the three information conditions as rated by black and white students. Each mean score represents 360 observations (10 students rating 12 teachers on 3 scales -- either 3 evaluative or 3 dynamism scales). Figures 5 and 6 represent graphically the means presented in Tables 12 and 13. These tables and figures show that white students rate more positively on the voice alone condition, while black students rate more positively on the face alone and voice and face together conditions.

In Table 14, mean scores are plotted for black and white teachers as rated by black and white students on the voice alone condition as compared to the face alone condition. Scores on the evaluative and dynamism conditions are combined. Each mean score represents 360 observations (5 students rating 12 teachers on 6 scales). Figure 7 presents the means given in Table 14. Table 14 and Figure 7 show us that while white students rate more positively on the voice alone condition, and black students rate more positively on the face alone condition, both groups rate teachers of their own race more positively on both information conditions.

Table 12

Mean Scores on the Evaluative Dimension for Teachers in the Three Information Conditions as Rated by Black and White Students

	Voice	Face	Voice-Face
Black Students	5.06	5.60	5.36
White Students	5.39	4.85	5.12

Table 13

Mean Scores on the Dynamism Dimension for Teachers in the Three Information Conditions as Rated by Black and White Students

	Voice	Face	Voice-Face
Black Students	4.56	5.29	4.90
White Students	4.92	4.51	4.68

Table 14

Mean Scores for Black and White Teachers on the Voice Alone and Face Alone Information Conditions as Rated by Black and White Students

Group	Black Teachers	White Teachers
Voice Alone		
Black Students	5.27	4.35
White Students	4.80	5.52
Face Alone		
Black Students	5.77	5.12
White Students	4.40	4.84

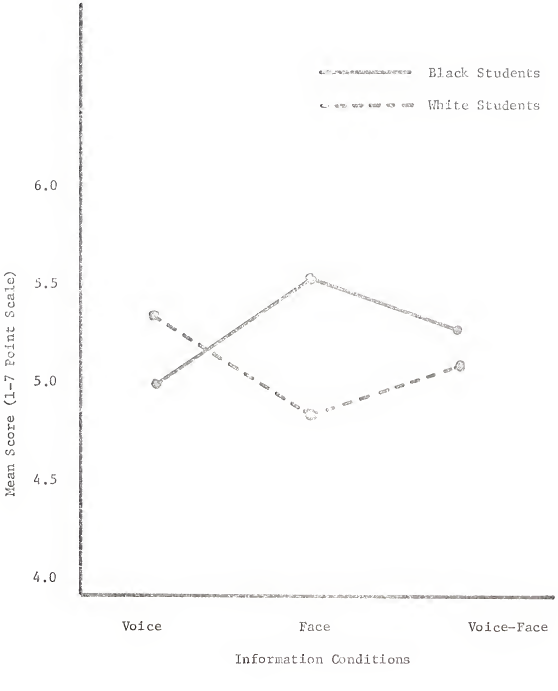

Figure 5. A Comparison of Mean Scores on the Evaluative Dimension for Teachers in the Three Information Conditions as Rated by Black and White Students

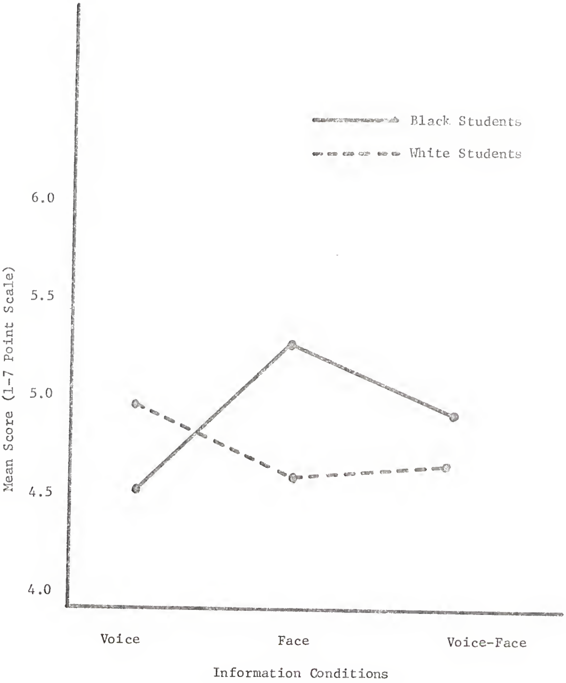

Figure 6. A Comparison of Mean Scores on the Dynamism Dimension for Teachers in the Three Information Conditions as Rated by Black and White Students

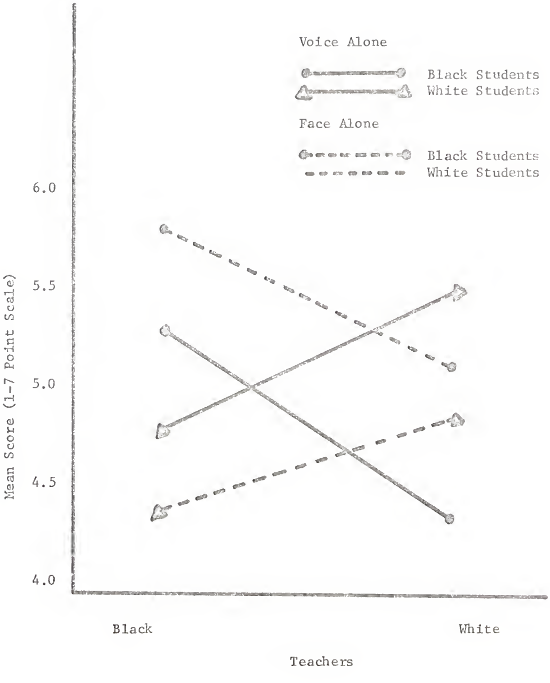

Figure 7. A Comparison of Mean Scores for Black and White Teachers on the Voice Alone and Face Alone Information Conditions as Rated by Black and White Students

Personality Trait Check List

As stated above, for purposes of analysis the adjectives were grouped into six clusters. A two-way analysis of variance was performed on each cluster. The two factors analyzed were the race of the teacher and the race of the student. The information conditions were not of particular interest in analyzing responses on the personality trait check list. The high and low stereotype conditions do not apply because the personality trait check list was the instrument used to distinguish between the stereotype groups.

In Tables 15 through 20, the results of the analysis of variance are given for each cluster of personality trait items. On Clusters A, B, D, and E (Warmth-Tolerance, Moral-Social Respectability, Forcefulness, and Aloofness) the column effects (Teachers), the row effects (Students) and the interaction effects (TxS) were all significant ($p < .05$). On Cluster C (Arrogance-Intolerance) only the interaction effect (TxS) was significant. No significant results were found on Cluster F (Aggressiveness).

Figures 8 through 13 show the mean ratings for black and white teachers as rated by black and white students on each of the six clusters. When a student agreed that a particular adjective applied to a teacher, this was rated as 1; when he disagreed, it was rated as 0. Since each student rated 6 teachers of each race, his mean rating on either black or white teachers could run from 0 to 6. The numbers in the figure then represent the mean number of teachers (out of 6) whom the student agreed possessed the personality in question. A high score numerically (e.g., 6) represents greater attribution of the quality in question, while a lower score numerically represents less attribution of that quality.

Table 15

Black and White Students Rating Black and White Teachers on Cluster A (Warmth-Tolerance)

Source	SS	MS	df	F	p
Teachers (T)	15.45	15.45	1	0.28	n.s.
Students (S)	444.75	444.75	1	8.20	.01
TxS	1848.55	1848.55	1	34.09	.01
Between Means	2308.75	769.61	3	14.19	.01
Within Groups	6290.17	54.22	116		

Table 16

Black and White Students Rating Black and White Teachers on Cluster B (Moral-Social Respectability)

Source	SS	MS	df	F	p
Teachers (T)	52.01	52.01	1	0.95	n.s.
Students (S)	106.41	106.41	1	1.94	n.s.
TxS	541.87	541.87	1	9.881	.01
Between Means	700.29	233.43	3	4.26	.05
Within Groups	6361.83	54.84	116		

Table 17

Black and White Students Rating Black and White Teachers on Cluster C (Arrogance-Intolerance)

Source	SS	MS	df	F	p
Teachers (T)	11.41	11.41	1	0.63	n.s.
Students (S)	69.01	69.01	1	3.79	n.s.
TxS	106.41	106.41	1	5.84	.05
Between Means	186.82	62.27	3	3.42	n.s.
Within Groups	2112.50	18.21	116		

Table 18

Black and White Students Rating Black and White Teachers on Cluster D (Forcefulness)

Source	SS	MS	df	F	p
Teachers (T)	24.30	24.30	1	2.15	n.s.
Students (S)	22.53	22.53	1	1.99	n.s.
TxS	172.80	172.80	1	15.32	.01
Between Means	219.63	73.21	3	6.49	.05
Within Groups	1308.33	11.28	116		

Table 19

Black and White Students Rating Black and White Teachers on Cluster E (Aloofness)

Source	SS	MS	df	F	p
Teachers (T)	4.03	4.03	1	0.68	n.s.
Students (T)	19.20	19.20	1	3.24	n.s.
TxS	9.63	9.63	1	1.62	n.s.
Between Means	32.86	10.95	3	1.85	n.s.
Within Groups	687.80	5.92	116		

Table 20

Black and White Students Rating Black and White Teachers on Cluster F (Aggressiveness)

Source	SS	MS	df	F	p
Teachers (T)	0.01	0.01	1	0.00	n.s.
Students (S)	1.40	1.40	1	0.38	n.s.
TxS	1.35	1.35	1	0.37	n.s.
Between Means	2.76	0.92	3	0.25	n.s.
Within Groups	421.95	3.64	116		

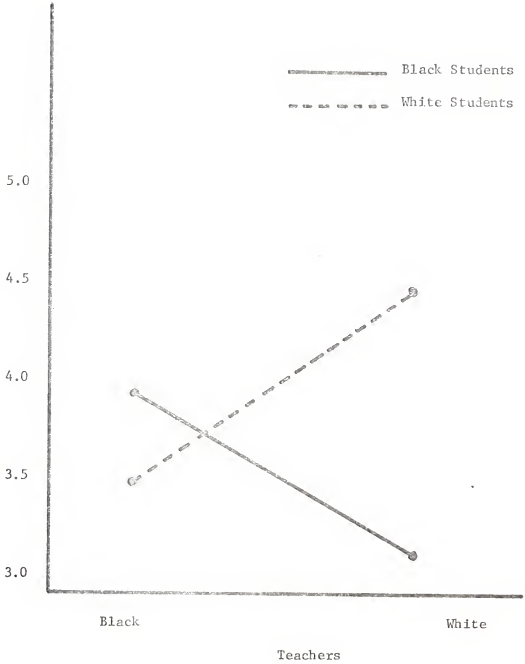

Figure 8. A Comparison of Mean Scores on Cluster A (Warmth-Tolerance) for Black and White Teachers as Rated by Black and White Students

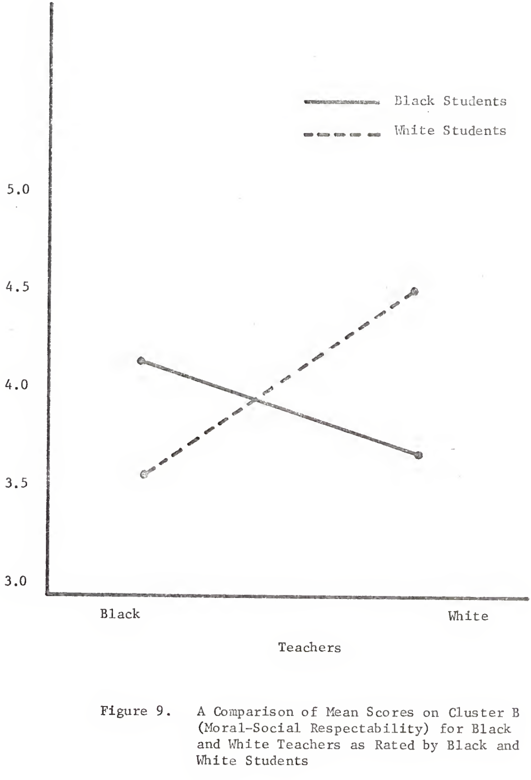

Figure 9. A Comparison of Mean Scores on Cluster B (Moral-Social Respectability) for Black and White Teachers as Rated by Black and White Students

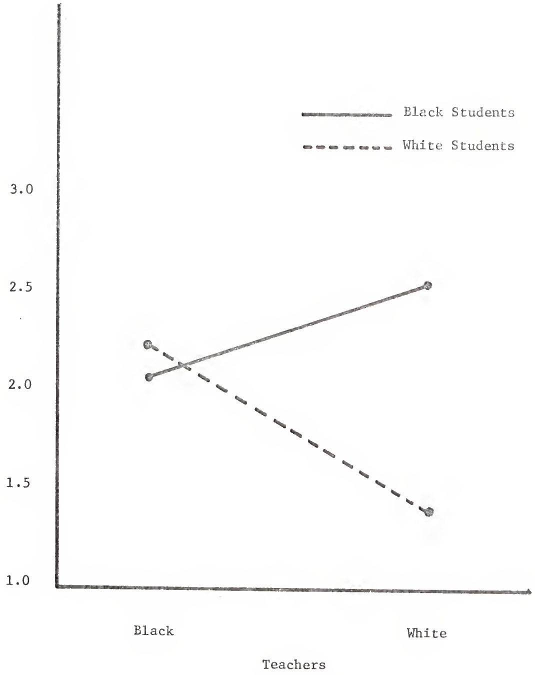

Figure 10. A Comparison of Mean Scores on Cluster C (Arrogance-Intolerance) for Black and White Teachers as Rated by Black and White Students

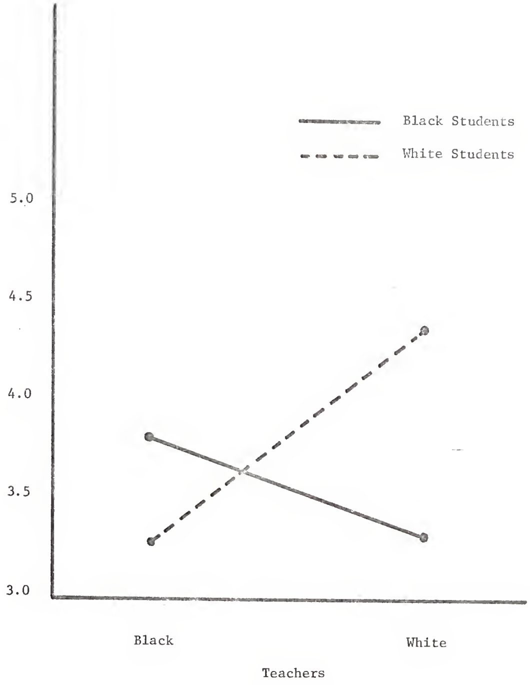

Figure 11. A Comparison of Mean Scores on Cluster D (Forcefulness) for Black and White Teachers as Rated by Black and White Students

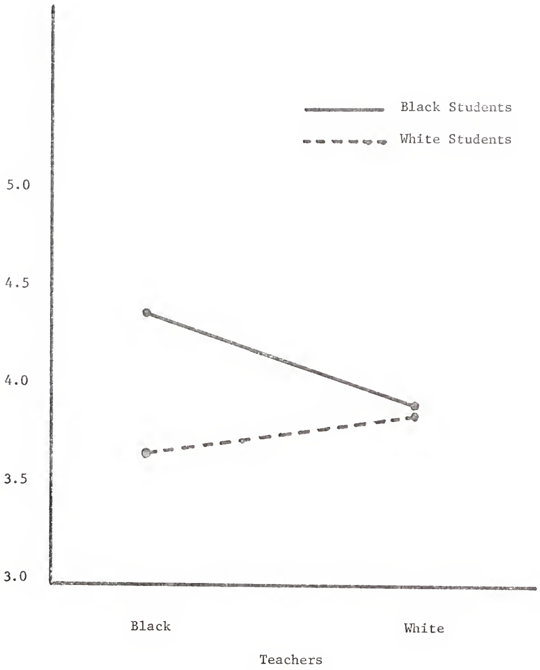

Figure 12. A Comparison of Mean Scores on Cluster E (Aloofness) for Black and White Teachers as Rated by Black and White Students

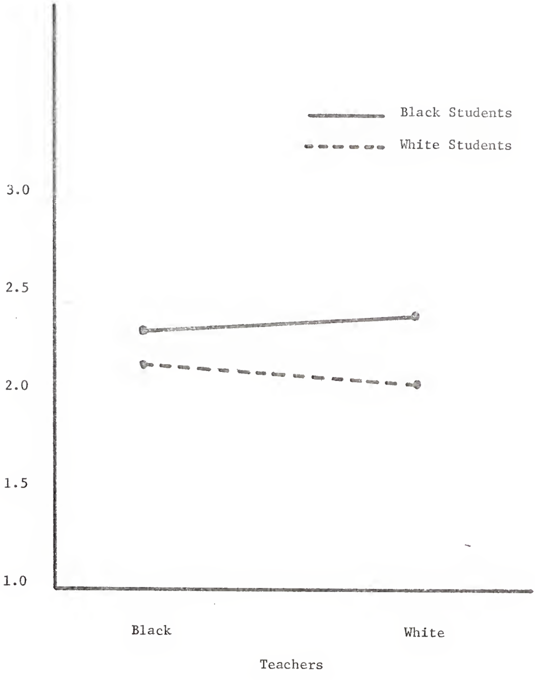

Figure 13. A Comparison of Mean Scores on Cluster F (Aggressiveness) for Black and White Teachers as Rated by Black and White Students

DISCUSSION

Hypothesis I stated that both black and white students would rate teachers of their own race more positively. This hypothesis is strongly supported by the data. In analyzing the evaluative and dynamism dimensions of the semantic differential and the six clusters of the personality trait items, in all instances but two, students rated teachers of their own race significantly more positively. The two exceptions were the personality trait of clusters E and F, and the rating of white teachers on dynamism.

The author believes that the confirmation of Hypothesis I has important implications. In attitude studies between blacks and whites, for example, nonverbal communication is not usually taken into account. In this study, although some of the variance was accounted for by the stereotype conditions, it was relatively small compared to the total variance. In black-white attitude studies, as well as other cross-cultural studies, the results may be due much more to nonverbal communication than has generally been realized. Perhaps racial prejudice is much more an ongoing process of interpreting the nonverbal signals of one culture (or sub-culture) according to what those signals would mean in another culture, rather than an attitude learned from one's parents or one's cultural milieu. An interesting research project would be to try to determine precisely how much of racial prejudice is due to an attitude learned from others, and how much is due to an on-going misinterpretation of nonverbal signals.

Hypothesis II stated that black and white students would not differ in rating on the three information conditions. This hypothesis was not confirmed. The data show that black students rate significantly more positively (as better, more dynamic) on the face only condition than do the white students. White students rate more positively on the voice only condition, although the difference is not significant. As seen in the review of the literature, Shapiro (1968a) has shown that individuals have a preferred mode for receiving either facial or vocal cues. An individual responds consistently to one set of cues more than the other. The data suggest that this same difference may be true in comparing the black and white sub-cultures. Certainly further research will be necessary to establish this fact. If it turns out, however, as the present data suggest, that blacks rely more on visual cues, and whites rely more on vocal cues in receiving nonverbal communication, this would be an important finding. It would shed light on problems in the area of black-white communication. Further research is needed to spell out precisely how facial expressions and voice qualities of blacks and whites differ. Various systems such as that of Schlosberg (1941) for facial expressions, and Markel (1965) for voice qualities, might be used for investigating these differences.

The fact that blacks and whites prefer different modes of nonverbal communication, should further research bear this out, would have important practical consequences. A white therapist might express warmth and empathy in his voice, but unless his face also showed it, a black client might not pick it up. With a black counselor and a white student, understanding and warmth shown only facially might not be perceived by the student. A teacher or social worker may have his work with someone of the opposite race undermined because of differing nonverbal communication patterns. With further research in this area to pinpoint precisely how nonverbal communication patterns differ in the two groups, workshops could be set up to train teachers, counselors, social workers, therapists, etc. how to communicate effectively with those of the opposite race.

Finally, some observations about this research are in order. Since the research was done in a real life setting, the kind of controls that one might desire were not always obtainable.

In view of the research reported by Slater (1970) on experimenter bias in black-white studies, the experimenter used black teachers as assistants in working with black students, and white teachers as assistants in dealing with white students. Since the experimenter, who is white, needed to be present when the black students rated the video tape, this fact may have introduced some experimenter bias into the data.

There are several other factors which may have influenced the results to some extent, but which were not included in the experimental design, lest it get too cumbersome. There may be some interaction between the race and the sex of the subjects. Generally, sex differences have not been significant in studies of nonverbal communication, but that may not apply in this context.

The persons rated in the study were all teachers, and therefore to some extent, authority figures to the students. The fact that the black students rated teachers in general more positively than white students may be related to the fact that the persons rated were authority figures. The experimenter's interest in this research arose from practical situations wherein one party was an authority figure, e.g., teacher-student, counselor-client relationships. It would be interesting to repeat this study having students rate their peers.

APPENDIX A

SAMPLE DATA SHEETS

Semantic Differential

Please circle one number with each pair of words:

EXAMPLE:

pleasant	3	2	1	0	-1	-2	-3	unpleasant

3 - very pleasant
2 - somewhat pleasant
1 - a little pleasant
0 - neither pleasant nor unpleasant
-1 - a little unpleasant
-2 - somewhat unpleasant
-3 - very unpleasant

friendly	3	2	1	0	-1	-2	-3	unfriendly
strong	3	2	1	0	-1	-2	-3	weak
good	3	2	1	0	-1	-2	-3	bad
active	3	2	1	0	-1	-2	-3	not active
pleasant	3	2	1	0	-1	-2	-3	unpleasant
fast	3	2	1	0	-1	-2	-3	slow

APPENDIX B

Personality Trait Check List

Please circle either A or D for each of the following:

A - Agree

D - Disagree

A D 1. trustful (full of trust)
A D 2. kind (having the will to do good to others, gentle)
A D 3. likeable (pleasant, agreeable)
A D 4. warmhearted (having many warm feelings)
A D 5. cheerful (happy, glad, pleasant)
A D 6. patient (bearing pains or trials calmly or without complaint)
A D 7. humorous (full of funny humor, comical)
A D 8. easygoing (taking life easily)
A D 9. hostile (not hospitable, unfriendly)
A D 10. conscientious (governed by one's conscience, careful)
A D 11. intelligent (smart, having understanding)
A D 12. refined (well mannered, courteous)
A D 13. studious (concerned with study, earnest)
A D 14. distinguished (marked by excellence, outstanding)
A D 15. responsible (able to fulfill one's obligations, trustworthy)
A D 16. indifferent (showing neither interest nor dislike, uncaring)
A D 17. sly (displaying cleverness, tricky)
A D 18. conceited (having too high an opinion of oneself)
A D 19. quick-tempered (becoming angry very easily)
A D 20. alert (ready and watchful, quick to see and act)
A D 21. energetic (showing much energy, very active)
A D 22. self-confident (confident in one's own abilities and powers)
A D 23. Proud (respect of oneself, feeling or showing pride)
A D 24. reserved (quiet in words and actions)
A D 25. aggressive (showing a readiness to attack others, forceful)

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BIOGRAPHICAL SKETCH

Richard Andrew Gardiner was born February 24, 1932, at Nampa, Idaho. In June, 1949, he was graduated from the Passionist Fathers High School at St. Louis, Missouri. In June, 1955, he received the Bachelor of Arts with a major in philosophy from the Passionist Fathers College, Chicago, Illinois. From 1955 until 1960 he pursued graduate studies in the field of theology and scripture at the Passionist School of Theology, Chicago, Illinois. In 1960 he went to Tokyo, Japan, where he undertook a two-year studies program in Japanese language and history. Subsequently, he worked as a counselor for university students in the same city. In January, 1966, he returned to the United States and enrolled in the Graduate School of Kansas State University. In February, 1967, he received a Master of Arts degree in speech from that University. In March, 1968, he enrolled in the graduate program in psychology at the University of Florida. From then until the present time he has pursued his work toward the degree of Doctor of Philosophy.

Richard Andrew Gardiner married the former Ann M. Ochoa in September, 1969.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Audrey S. Schumacher

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